

CHAPTER 1

PURPOSE OF AND NEED FOR ACTION

1.0 INTRODUCTION

Powder River Gas, LLC (PRG) has proposed the Coal Creek Exploration Plan of Development (POD) project to drill and explore for coal bed natural gas (CBNG) in eight federal and eight private test wells in Big Horn County of southeastern Montana. The POD proposes to pump and treat water from two coal seams and to test for the presence of commercial quantities of natural gas, although commercial gas production is not proposed. The project area is north of the Tongue River Reservoir, in Sections 6 and 7, Township 8 South, Range 41 East (Map 1.3-1 and Map 1.3-2). The surface ownership in the entire project area is private, but eight of the sixteen wells would be drilled where the underlying minerals are owned by the federal government and leased to the operator. A more detailed description of the proposed POD is found in Chapter 2.

This Environmental Assessment (EA) was prepared by the Bureau of Land Management (BLM) in cooperation with the Montana Department of Environmental Quality (MDEQ), and the Montana Board of Oil and Gas Conservation (MBOGC). The EA analysis tiers to and incorporates by reference the information and analyses contained in the *Montana Statewide Oil and Gas Final Environmental Impact Statement and Amendment of the Powder River and Billings RMPs* (MT FEIS) approved by MBOGC on March 26, 2003, by BLM on April 30, 2003, and MDEQ on August 7, 2003. The EA addresses site-specific impacts and mitigation measures that are not covered in the MT FEIS. The EA completes the environmental review requirements of NEPA for BLM and of MEPA for MBOGC and MDEQ.

1.1 PURPOSE OF AND NEED FOR ACTION

The purpose of the proposed action is to test the CBNG potential of private and federal oil and gas leases within the project area. The PRG POD is needed to ensure that the proposed activities occur in an orderly, efficient and environmentally responsible manner that meets state and federal environmental requirements and provides measures to protect surface owner assets.

1.2 CONFORMANCE WITH THE APPLICABLE BLM LAND USE PLAN

The Proposed Action is considered by BLM under the requirements of the Mineral Leasing Act (MLA), the Federal Land Policy Management Act (FLPMA) and the BLM regulations at 43 CFR 3160 and other applicable laws and regulations.

As required by 43 CFR 1610.5, approval of CBNG drilling and testing activities must be in conformance with the applicable land use plans. In this case, the terms and the conditions of the BLM 1984 *Powder River Resource Management Plan* (RMP), as amended by the BLM 1994 Miles City District Oil and Gas EIS/Amendment and the *Montana Statewide Oil and Gas EIS/Amendment of the Powder River and Billings RMP's* (BLM, 2003) (MTFEIS). Those documents provided for the leasing, exploration, and development of federal lands in the project area for oil and gas resources; and placed management prescriptions on lease activities that would be imposed on a site-specific basis to protect area resources. This EA is tiered to the MT FEIS.

1.2.1 Other Relevant Documents

- Final Environmental Impact Statement and Proposed Plan Amendment for the Powder River Basin Oil and Gas Project (WY FEIS), April, 2003.
- EAs prepared by MDEQ for discharge of produced water into the Tongue River by Fidelity, June, 2000, Permit No. MT-0030457.

1.3 DECISIONS REQUIRED

1.3.1 Montana Department of Environmental Quality (MDEQ)

The MDEQ administers various environmental statutes in the state of Montana, including the Water Quality Act (75-5-101 *et seq.*, MCA), Clean Air Act (75-2-101 *et seq.*, MCA), Hazardous Waste Act (75-10-401 *et seq.*, MCA), and Solid Waste Act (75-10-201 *et seq.*, MCA) and implementing regulation. In addition to these statutes, Department actions must also comply with the Montana Environmental Policy Act (MEPA) and the applicable implementing regulations.

Decisions to be made by the Air Resources Management Bureau of the MDEQ include making determinations as to whether a Montana Air Quality Permit (MAQP) would be required for the proposed activities and, if a MAQP is necessary, establishing MAQP conditions that are protective of air quality. Because the Administrative Rules of Montana (ARM), Title 17, Chapter 8, Subchapter 7 – Permit, Construction and Operation of Air Contaminant Sources, specifically exempts certain activities from the requirement to obtain a MAQP, the MDEQ would be required to determine the applicability of the exemptions to the proposal. For example, ARM 17.8.744(1)(b) exempts mobile emitting units, including motor vehicles, aircraft, and other such self-propelled vehicles from obtaining a MAQP. In addition, ARM 17.8.744(1)(i) exempts drilling rig stationary engines and turbines that do not have the potential to emit more than 100 tons per year of any regulated pollutant and that do not operate in any single location for more than 12 months from obtaining a MAQP.

The Air Resources Management Bureau of the MDEQ would also be responsible for making permit determinations regarding the emergency flares proposed to be used in situations where there is a safety concern. Further, any future development, such as the placement of compressor engines or turbines, would require a permit determination from MDEQ. ARM 17.8.743 requires that a person may not construct, install, modify, or operate a new facility or emitting unit upon which construction was commenced, or that was installed after November 23, 1968, that is not specifically excluded under ARM 17.8.744, and that has the potential to emit more than 25 tons per year of any regulated airborne pollutant, other than lead, without first obtaining a MAQP. MDEQ's air quality permit determinations are discussed in Section 1.5 of this EA.

The MDEQ issues wastewater discharge permits under the MPDES permit program pursuant to the 75-5-402, MCA of the Montana Water Quality Act (WQA) and sections 402 and 303 of the federal CWA. Under the federal CWA the MDEQ is delegated to issue storm water permits, permit federal facilities and issue general permits, as wells, as individual permits to both public and private facilities. Pursuant to ARM 17.30.1372, the MDEQ has issued a Public Notice (MT-040-05) stating that a draft permit (MT0030660) and fact sheet have been prepared and that a tentative decision has been made to issue to a wastewater discharge permit to PRG for operation of and discharge from the water treatment facility proposed as part of the exploration POD.

The MDEQ is also responsible for issuing federal CWA Section 401 certification for activities that are licensed or permitted by a federal agency and may result in a discharge to state waters. The Department has adopted administrative rules for the issuance of CWA Section 401 certifications at Title 17, Chapter 30, Subchapter 1 Administrative Rules of Montana (ARM). Pursuant to ARM 17.30.105(2)(b), the MDEQ has waived certification for this project, in a letter dated November 9, 2004, because any discharge to state waters from this project will require an MPDES permit (MT0030660 or MTG100000).

1.3.2 Montana Board of Oil and Gas Conservation (MBOGC)

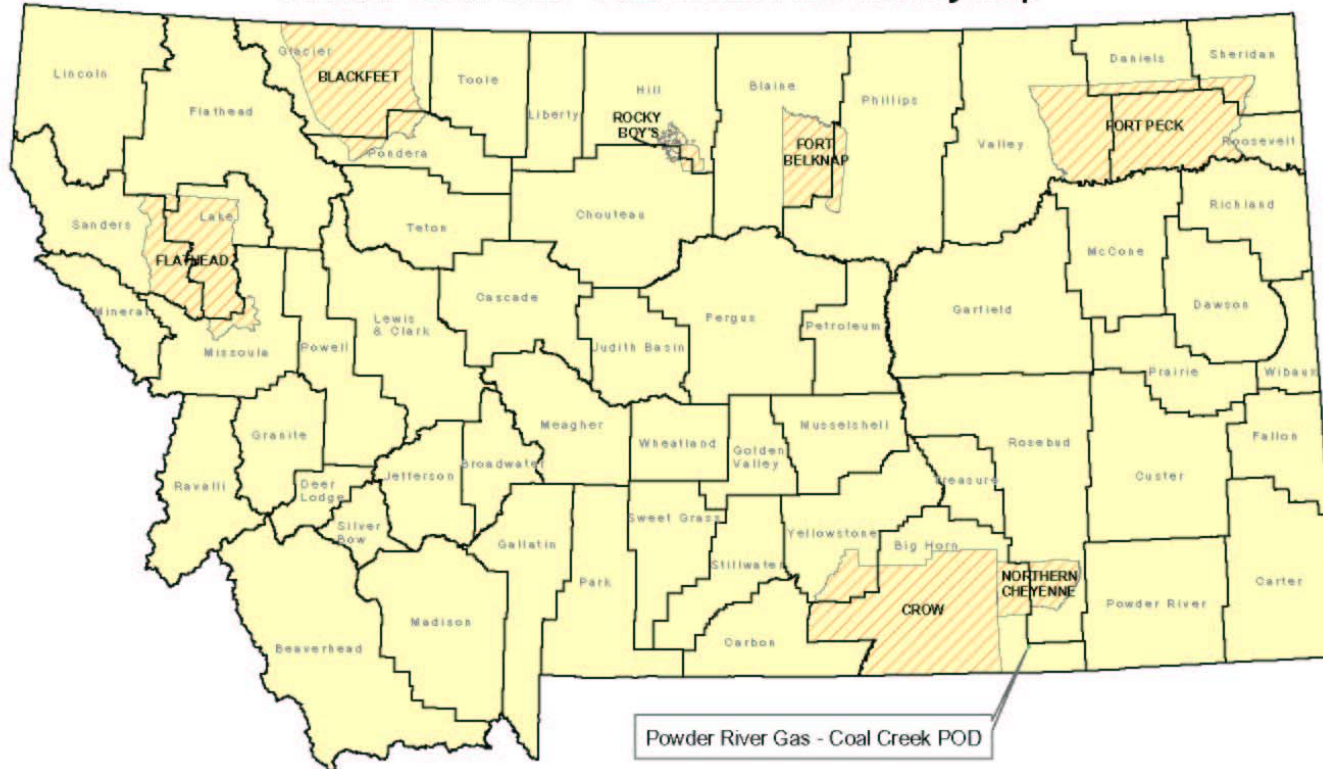
Decisions to be made by the MBOGC are whether to approve the Applications for Permit to Drill the fee wells or modify the proposals with mitigation measures. Also, the decision to approve or approve with modification the Application For Permit To Construct Or Operate An Earthen Pit Or Pond. MBOGC has approved the POD boundary and well spacing during a hearing conducted on October 2, 2003.

1.3.3 Bureau of Land Management

Decisions to be made by BLM include whether to approve the Applications for Permit to Drill the federal wells, approve individual components of the proposed action POD presented in Chapter 2, or modify the proposed action with mitigation measures and monitoring activities that may be necessary in addition to those proposed by the operator. It should be noted that no BLM decision is required in regard to well construction, completion or testing of any private wells, or their supporting infrastructure. BLM approval is not required for construction and operation of the water treatment facility or other infrastructure needed for water treatment or surface discharge.

MAP 1.3-1

Powder River Gas - Coal Creek POD Vicinity Map



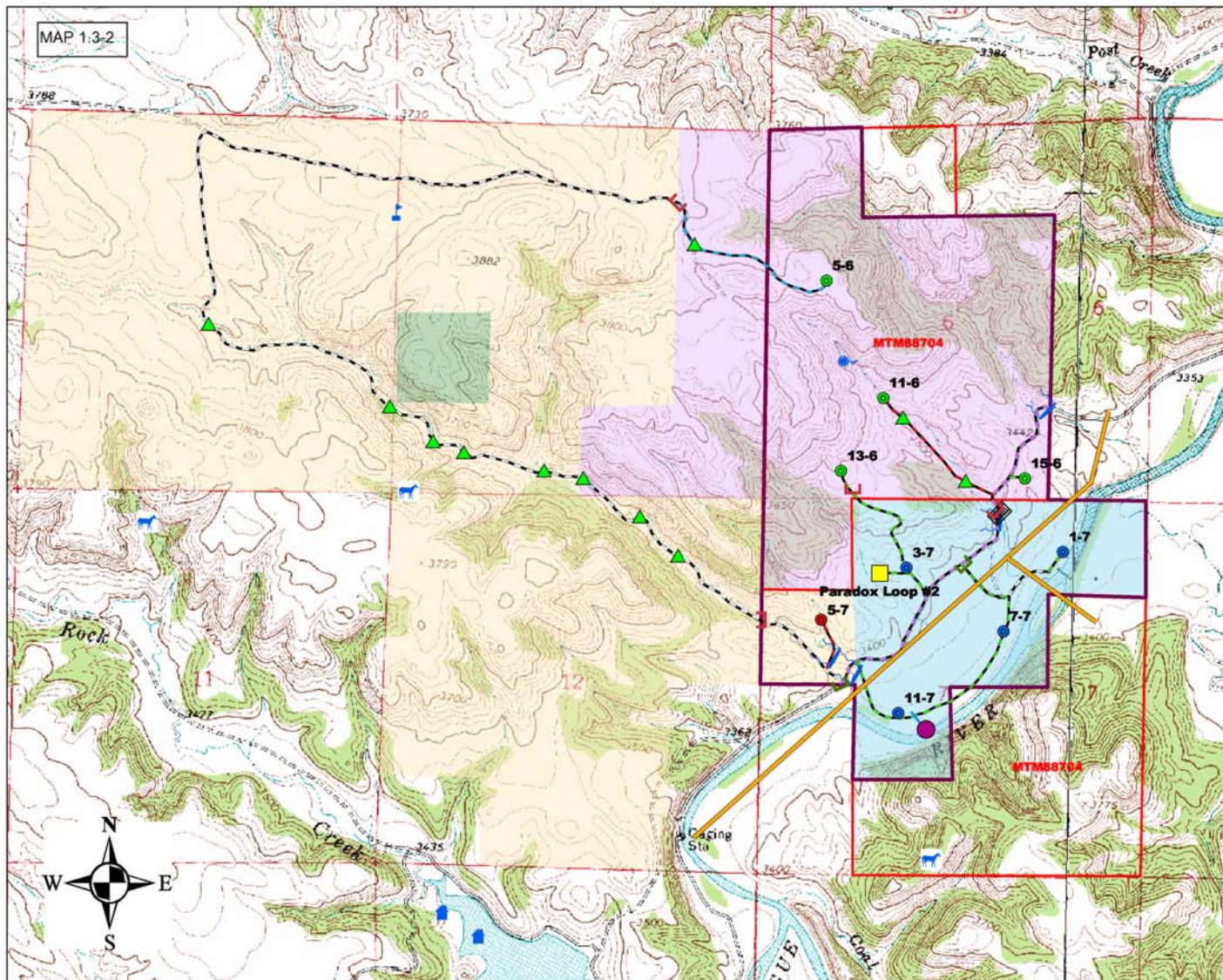
Legend

- Native American Reservations
- Powder River Gas - Coal Creek POD

1:4,000,000
50 25 0 50 Miles



This page left intentional blank.



- ### Legend
- Wells**
 - Existing Fee
 - Proposed Fee
 - Proposed Federal
 - Proposed Loop Facility
 - Outfall Location
 - Existing Gate**
 - Proposed Gate**
 - Culvert**
 - Water Wells**
 - Domestic
 - Research
 - Spring
 - Stock
 - Cattle Guard
 - Low Water Crossing/Spot Upgrade Area**
 - Existing County Road/Proposed Corridor**
 - Existing Two Track/Proposed Corridor**
 - Proposed Corridor**
 - Proposed Two Track**
 - Proposed Water Line**
 - Overhead Power Line**
 - Federal Lease**
 - Landowner Boundary**
 - BLM
 - Forest Dunning
 - Paradox Land Company, LLC
 - William Long
 - Project Boundary**

0.3 0.15 0 0.3
Miles

Powder River Gas, LLC
Coal Creek Project Map

WESTERN LAND SERVICES
Sheridan, WY 82801 (307) 673-1817
CONFIDENTIAL
Prepared By CCC Date June 15, 2004

This page left intentional blank.

1.4 ISSUE IDENTIFICATION

Relevant issues were identified by technical staff based on issues highlighted during the 2003 MT FEIS and the 2004 Badger Hills POD EA; from landowner, agency and tribal consultation; and site inspections in the project area. Relevant issues include the following:

- Air quality effects from CBNG development activities including drill rig emissions (exhaust emissions as well as dust generated by drilling the wells), well testing (venting and/or flaring of the gas), and fugitive dust (construction activities as well as road dust) and compliance with all applicable air quality rules and standards, including ambient air quality standards
- Cumulative Impacts of this action when considered with past, present and reasonably foreseeable future actions
- Effects to cultural resources
- Effects to soils from using reserve pits and other drilling and construction activities
- Development of new two-track roads
- Drawdown of groundwater table and effects to springs and wells (pumping water out of coal seams)
- Habitat fragmentation and disturbance effects to wildlife habitat
- Potential for Methane Migration
- Reclamation of disturbed areas associated with construction activities
- Surface Water Quality Impacts

1.5 FEDERAL, STATE AND LOCAL PERMITS OR REQUIRED CONSULTATION

Montana Air Quality Permits

This EA is being prepared in cooperation with the MDEQ, which has jurisdiction over sources of air pollution in the State of Montana. Therefore, the Air Resources Management Bureau must be consulted to make permit determinations regarding the use of air contaminant sources that would be used as part of the proposed CBNG drilling and testing (drill rigs, emergency flares, etc.), as well as any future development (installation of compressor engines/turbines). The Air Quality Bureau has determined that a permit is not required for the PRG proposed exploration POD.

Based on information provided by Powder River Gas, LLC, the drill rig proposed to be used to drill the wells would utilize a 400-horsepower (hp) diesel engine. In addition, testing would be for 6 months for the entire project or 1260 MCF of produced gas per well, whichever occurs first. Well testing will not exceed 30,000 standard cubic feet per day per well. The MDEQ completed an emission inventory using the information provided by Powder River Gas, LLC and emission factors obtained from the United States Environmental Protection Agency's (EPA) Compilation of Air Pollutant Emission Factors, AP-42, Fifth Edition, Volume I and a flare study completed by the Chemical Manufacturers Association. In addition, because the project would be federally restricted to 30,000 Standard cubic feet per day per well, the potential to emit was calculated based on 30,000 standard cubic feet per day per well and 8,760 hours of operation. The MDEQ determined that a MAQP is not required for any of the activities proposed as part of the Coal Creek Project because the potential to emit of the entire project is well below the MAQP threshold of 25 tons per year, except for oxides of nitrogen (NO_x) emissions from the drill rig stationary engine. However, ARM 17.8.744(1)(i) exempts drill rigs that have the potential to emit less than 100 tons per year and that do not operate in the same location for more than 12 months from the need to obtain a MAQP. MDEQ's permit determination is very conservative because each activity (drilling and flaring) was calculated based on 8,760 hours per year and the entire drilling portion of the project will be completed within approximately 6 weeks (1008 hours). Technically, for an air quality permit determination, each hole would be considered a separate project; so, considering emissions from the entire project, as proposed to BLM, ensures that the analysis used to make the air quality permit determination is very conservative. The potential to emit of the proposed project is summarized in the following table:

Table 1.5-1 Emission Inventory - Air Quality Permit Determination

Tons/Project							
<i>Emission Source</i>	<i>TSP</i>	<i>PM₁₀</i>	<i>PM_{2.5}</i>	<i>NO_x</i>	<i>VOC</i>	<i>CO</i>	<i>SO_x</i>
Drill Rig(s) – (Engine Emissions)	0.00	0.00	3.86	54.31	4.33	11.70	3.59
Drill Rig(s) – (Drilling Emissions)	0.39	0.39	0.39	0.00	0.00	0.00	0.00
Well Testing – (Gas Flaring)	0.00	0.00	0.00	1.61	0.00	3.21	0.00
Total	0.39	0.39	4.25	55.92	4.33	14.91	3.59

Although MDEQ determined that a MAQP is not required for the proposed project, MDEQ would need to be contacted to determine whether a MAQP would be required for any future development, such as installing compressor engines, turbines, or any other sources of air contaminants that are outside the scope of the proposed project.

Montana Pollutant Discharge Permit (MPDES permit)

This EA is being prepared in conjunction with the MDEQ, which has jurisdiction over surface water discharge permits in the State of Montana. PRG is required to obtain an MPDES for the operation and discharge of treated water from the Higgins Loop produced water treatment system. The DRAFT MPDES Permit and the MDEQ's Statement of Basis are included in the PRG-Coal Creek-Hydrology Technical Report, Appendix C. This EA constitutes the MEPA analysis on the proposed permit.

Federal 401 Certification

Pursuant to ARM 17.30.105, MDEQ (Department) may: deny certification, if the Department finds that the activity will violate a state water quality standard; issue certification if the project complies with state water quality standards; certify with conditions; or waive certification if the proposed discharge will have minimal impact on states water or requires an MPDES discharge permit. Because the proposed activity requires an MPDES discharge permit, the Department has waived certification for the proposed activity, in a letter dated November 9, 2004.

Storm Water Discharge Permit

The owner or operator of any activity, which disturbs greater than one acre of land and has the potential to discharge storm water runoff to state waters, including ephemeral drainages or intermittent tributaries, must submit a Notice of Intent under the Montana Pollutant Discharge Elimination System (MPDES) for coverage under the "General Permit for Storm water Discharges Associated with Construction Activity" ("General Permit" – MTG100000). The General Permit requires that the owner or operator develop a Storm Water Pollution Prevention Plan (SWPPP), including Best Management Practices, maintenance, self inspection and recording keeping procedures in order to prevent significant sediment from entering state waters and causing a violation any state water quality standard. The NOI is effective upon receipt by the Department provided that the NOI package is complete. The Department may deny coverage under the General Permit if the project does not comply with terms and condition of the permit or based on the criteria of ARM 17.30.1341(4). The operator may terminate coverage under the General Permit after the site has achieved 70 percent of the pre-disturbance vegetative coverage.

MBOGC Earthen Pit or Pond Permit

MBOGC approves permits for the construction and operation of reservoirs/pits designed to store water produced in association with the CBNG wells. The PRG proposal has one lined pond to be used in conjunction with the ion exchange water treatment facility. The temporary storage, total containment pond would be located adjacent to the treatment facility. The pond would be divided into two separate, lined storage units. One side of the pond would receive untreated effluent from the CBNG wells, allow the particulates to settle and continually move effluent into the treatment facility. The other portion would receive treated effluent ready for discharge into the Tongue River. The pond would be entirely located on private land, private mineral lease. Because water from federal wells is proposed to be temporarily stored in this pond, BLM approval is required in accordance with Federal Onshore Oil and Gas Order No. 7. PRG

submitted an Application For Permit To Construct Or Operate An Earthen Pit Or Pond to the MBOGC on September 25, 2003.

Surface Use Agreement/Water Mitigation Agreement

The operator has certified that a surface use agreement with the private surface owners has been reached in accordance with the requirements of Federal Oil and Gas Onshore Order No. 1. The operator has certified that water mitigation agreements have been reached with all potentially affected water right holders in accordance with the requirements of MBOGC Order No. 99-99. PRG has provided certification of these agreements, dated November 19, 2004.

SHPO Consultation

BLM's approval of the APD's and associated infrastructure developments is considered a Federal Undertaking as defined in Section 106 of the National Historic Preservation Act and its implementing regulations found in 36 CFR 800. BLM's Cultural Resource Program in Montana operates under a National Programmatic Agreement with an implementing protocol with the Montana SHPO. One provision in the protocol provides for case by case review for controversial projects. BLM has consulted with the Montana SHPO under this provision. The initial consultation was done in September 2003. The SHPO concurred with the results of the inventory, but suggested the need for additional information. BLM has reviewed the information requested from the SHPO and provided additional information to the SHPO in October 2004. BLM has determined that the proposed Powder River Gas POD would have no adverse effect to historic properties. This determination was based on a lack of direct effects to historic properties. This information was communicated to the SHPO on October 21, 2004. The SHPO concurred with BLM's determination that the Powder River Gas Coal Creek would have no adverse effect on historic properties on November 5, 2004. The SHPO concurrence was received by fax at the Miles City Field Office on November 8, 2004.

Tribal Consultation

The Northern Cheyenne Tribal Historic Preservation Officer (THPO) was sent a letter requesting comments on the PRG Exploration POD on June 28, 2004. The letter requesting comments on the POD was also sent to the Crow Cultural Commission, Fort Peck Tribes, Lower Brule Sioux Tribe, Rosebud Sioux Tribe, Pine Ridge Sioux, Cheyenne River Sioux, Eastern Shoshone Tribe, Standing Rock Sioux, Northern Arapahoe Tribe, Blackfeet Tribe, Fort Belknap Community Council, Chippewa-Cree Tribe of the Rocky Boy's Reservation, Montana Preservation Alliance, and National Trust for Historic Preservation. Written responses to the letter were received from the National Trust for Historic Preservation and the Montana Preservation Alliance. Responses to the issues raised in their letters are found in the comments section of this EA. No formal written responses to BLM's letter were received from any of the Native American groups contacted. A phone call to the Fort Peck Tribes indicated they would defer their input based on the Northern Cheyenne's findings. Phone calls to the Crow Cultural Commission were not returned.

Previous to the June 28, 2004 comment letter, the Northern Cheyenne Tribe had raised the issue of the adequacy of initial cultural resource inventory for identifying Traditional Cultural Properties, in a meeting between BLM and the Tribe on October 20, 2003. In an attempt to resolve the issue, a field visit was conducted by the BLM, Western Land Services, and the Northern Cheyenne THPO on August 4, 2004. The purpose of this visit was to determine if Traditional Cultural Properties were present in the PRG POD area and to consider the Tribe's concerns with the proposed POD. No traditional cultural properties (TCP's) were identified (Brady 2004). The results of the field visit are discussed further in Chapter 3. The Northern Cheyenne THPO recommended having a tribal monitor present during surface disturbing activities. This recommendation has been incorporated into Alternative C as a mitigating measure and condition of approval. Members of the Northern Cheyenne Tribe also participated in a public meeting in Colstrip, Montana on August 24, 2004. Several of those commenting noted potential impacts to cultural resources from the project. The concerns they raised are addressed in Chapter 3 of the EA and in responses to their comments.

BLM has made a reasonable and good faith effort to take into account potential impacts to Tribal concerns and Traditional Cultural Properties. This information was communicated to the SHPO in BLM's letter of October 21, 2004.

FWS Consultation

Section 7 Consultation under the Endangered Species Act (50 CFR 402.14) with US Fish and Wildlife Service (FWS) is required with the proposed action. A Biological Assessment of impacts to Threatened/Endangered (T/E) species was provided to FWS by BLM (letter to FWS dated 11/02/03, BLM files). FWS provided BLM a Biological Opinion and Concurrence addressing the BLM Biological Assessment (letter dated 11/26/03). FWS concurred with BLM's determination of "may affect, likely to adversely affect" for the bald eagle and agreed with proposed action recommendations for protection/mitigation to T/E species.